



INFORMATION TECHNOLOGY INDUSTRY COUNCIL

July 27, 1998

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Ms. Magalie Salas
Office of the Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington D.C. 20554

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JUL 27 1998

**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY**

Dear Ms. Salas:

I am enclosing an original and ten copies of the Information Technology Industry Council's comments on the Notice of Proposed Rulemaking in ET Docket No. 98-80, "1998 Biennial Regulatory Review -- Conducted Emissions Limits Below 30 MHz for Equipment Regulated Under Parts 15 and 18 of the Commission's Rules."

With regards,

John M. Godfrey
Director, Technology Policy

The association of leading IT companies

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Before the
**Federal Communications
Commission**

Washington, DC 20554

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**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY**

In the Matter of)

1998 Biennial Regulatory Review --)

Conducted Emissions Limits Below 30 MHz for)

Equipment Regulated Under Parts 15 and 18 of the)

Commission's Rules)

ET Docket No. 98-80

COMMENTS OF THE INFORMATION TECHNOLOGY INDUSTRY COUNCIL

The Information Technology Industry Council ("ITI")¹ is pleased to offer the following comments in response to the Commission's Notice of Inquiry in ET Docket No. 98-80.

We have organized our response in the form of answers to the questions in the Notice of Inquiry. We have answered only those questions that we believe are the most relevant to regulation of information technology equipment (ITE).

Question 9-1: Are the Part 15 and 18 conducted emission limits still necessary?

There is a need to control conducted emissions to ensure that licensed low-frequency users of the spectrum continue to enjoy interference-free use of the spectrum. Thus the FCC should continue to have conducted emission limits to protect licensed services operating below

¹ITI represents the leading U.S. providers of information technology products and services. Its members had worldwide revenue of \$420 billion in 1997. ITI members invested \$15.5 billion in U.S.-based research and development in 1997 and employ more than 1.2 million people in the United States.

30 MHz. Technologies and equipment using the frequencies between 450 kHz and 30 MHz are stable, and no drastic action should/needs to be taken.

Question 9-2: Is there an alternative, more preferable means to control interference to services operating below 30 MHz caused by radio frequency devices and ISM equipment? If so, what alternative is appropriate?

As noted in this inquiry, AC electrical wiring can act as an antenna to receive and transmit signals over the airwaves. Below 30 MHz, where the wavelength is 10 meters, (at 3 MHz the wavelength is 100 meters, etc.) only long stretches of electrical wiring are efficient antennas. Studies by various American National Standards Institute (ANSI) and International Electrotechnical Commission (IEC) technical standards committees have confirmed that control of conducted emissions on AC power cables is the preferable means to control interference below 30 MHz. Since the ANSI conduction emission measurement method has world-wide acceptance, the FCC should not change to some alternative method and limits. Additionally, the techniques for such emissions control are well-developed and widely known.

Question 10-1: Are the existing Part 15 and Part 18 conducted emission limits effective in controlling interference to services operating below 30 MHz?

Since the existing conducted emission limits in both the United States and in the European Union countries have resulted in an interference-free situation, the FCC should adopt limits that are the more liberal of the FCC and/or the IEC standard CISPR-22 limits, over the frequency range of 450 kHz to 30 MHz. However, the additional CISPR-22 limits from 150 to 450 kHz for the U.S. ITE market only would be a major cost impact and are not necessary.

Question 10-2: Have there been changes in the types of radio services operating below 30 MHz that warrant a change in the conducted limits? If so, for what services and frequencies.

There have been more services using the AC wiring for a communications media in the past few years. Examples are security alarm systems and home automation control devices. We are not aware of any reported interference problems and believe the FCC limits are providing adequate protection for this multi-use wiring. As there are computer interface devices which use AC power lines for control circuits we ask the Commission to report in the NPRM their complaint experience in this area, if any.

Question 11-2: Are adjustments to the limits appropriate to make them consistent with conducted emission limits used internationally? Parties filing comments should describe the benefits of changing the rules to conform with international standards and provide specific references to the international standards that should be followed.

As a general matter, the FCC should use international standards, because this eliminates conflicting requirements and facilitates the design and marketing of products for global markets. However, the FCC should not adopt international standards in whole when the international standard imposes requirements that are not necessary in the United States. Instead, facilitation of international trade can be achieved through reference to selected parts of international standards and clear statement of national deviations.

In specific, the FCC Part 15 limits are the proper values for ITE products used in the United States and do not conflict with international standards. The differences between FCC and CISPR 22 limits of 9.5 dB in the range of 1.705 - 30 MHz (CISPR 22 is lower) for Class A products are significant. Also, CISPR 22 is 5 dB more restrictive than FCC limits for Class B in the 0.45 - 5.0 MHz range for Class B products. A change of the limits may be unnecessarily restrictive and have a product cost impact for any products which are only sold in the United States. Applying the additional CISPR -22 limits from 150 to 450 kHz for the U.S. ITE market only would be a major cost impact and is not necessary.

Question 11-5: Filters used to control radio emissions may effect compliance with requirements from other organizations pertaining to electrical safety. Should the Commission consider other product requirements, such as electrical safety, in adjusting the emission limits? If so, how?

AC power line filters can affect product safety characteristics of products, primarily the leakage current which is allowed on the safety grounding conductor. However, after twenty years of experience in meeting both the conducted emissions and the product safety requirements, including the more stringent requirements of medical equipment, this area is stable and techniques are established and well-known. With the current conducted emission limits of FCC Part 15 or CISPR-22 we do not believe the Commission should get involved in these safety requirements.

Question 12-1: What percentage of product costs is typically attributable to the Commission's regulations governing conducted emissions? What are the typical costs for any filtering that may be required to achieve compliance?

The cost to meet the FCC Part 15 conducted limits is under 2% of the product cost for the very cost-sensitive Class B products. For most Class A products the cost is under 0.5% of the total product cost. There are exceptions depending on load current rating and electrical configurations.

For most desktop computer applications, including PCs and workstations the cost of filters may range from \$1.75 to \$9.00 depending on volume and power level. For products in highly competitive markets with narrow profit margins, such as personal computers, this is a significant product cost.

Question 12-2: If the limits were relaxed in some fashion, how much of a change would need to occur before there would be any significant product savings?

In nearly every digital product, some type of filter is used, which in addition to reducing conducted emissions also improves product immunity against power line transients and noise. However, if the limits were relaxed, a simpler, less expensive filter could be used.

Respectfully submitted,

Information Technology Industry Council

By:

A handwritten signature in black ink, reading "John Godfrey". The signature is fluid and cursive, with the first name "John" and last name "Godfrey" clearly distinguishable.

John Godfrey

Director, Technology Policy

July 27, 1998